

Weekly Report **25/6/2018 - 29/6/2018**

Knowledge graph and Wordle

I have read the papers and online sources about knowledge graph (knowledge base/knowledge engine) and Wordle (tag cloud/word cloud) and storytelling. Here is the knowledge that I gain.

Knowledge Graph is a Google's service name; However, in general terms, it called knowledge engine technology or knowledge base.

While Wordle as knows as a tag cloud or word cloud. it is a representation of text data with keywords. The knowledge graph aims to represent the relationship among the information, in this case, the information can be the keywords that express in the wordle.

These two techniques are combined and present in a project called WordleKG. I have read and try to understand the project. Compare with my experience in software engineering process, based on my review paper. I think of the lacking of visualization of requirement gathering process. I think these two techniques can apply to that problem in software engineering.

However, I talked with Ms. Zhang, she explains about the current project about visualization of the Chinese poem. I think it is very interested and may apply this technique with software engineering term. But I'm quite not sure about what you want me to do?

For the next step, I will play with d3.js as soon as possible and be meeting with Ms.Zhang again.

Here is a list of papers that I have considered for this week.

Knowledge graph (knowledge base/knowledge engine)

Nadeau, D., & Sekine, S. (2007). A survey of named entity recognition and classification. *Lingvisticae Investigationes*, 30(1), 3-26.

Shao, L., Duan, Y., Sun, X., Gao, H., Zhu, D., & Miao, W. (2017, July). Answering who/when, what, how, why through constructing data graph, information graph, knowledge graph and wisdom graph. In *Proceedings of the International Conference on SEKE* (pp. 1-7).

Ogawa, M., & Ma, K. L. (2009). code_swarm: A design study in organic software visualization. *IEEE Transactions on Visualization and Computer Graphics*, 15(6), 1097-1104.

Lin, Z. Q., Xie, B., Zou, Y. Z., Zhao, J. F., Li, X. D., Wei, J., ... & Yin, G. (2017). Intelligent Development Environment and Software Knowledge Graph. *Journal of Computer Science and Technology*, 32(2), 242-249.

Zhang, L. (2002). *Knowledge Graph Theory and Structural Parsing* (p. 216). Twente University Press.

Ye, D., Xing, Z., Foo, C. Y., Ang, Z. Q., Li, J., & Kapre, N. (2016, March). Software-specific named entity recognition in software engineering social content. In *Software Analysis, Evolution, and Reengineering (SANER), 2016 IEEE 23rd International Conference on* (Vol. 1, pp. 90-101). IEEE.

Ehrlinger, L., & Wöß, W. (2016). Towards a Definition of Knowledge Graphs. In *SEMANTiCS (Posters, Demos, SuCCESS)*.

Wordle (tag cloud/word cloud) and storytelling

Zubiaga, A., García-Plaza, A. P., Fresno, V., & Martínez, R. (2009, July). Content-based clustering for tag cloud visualization. In *Social Network Analysis and Mining, 2009. ASONAM'09. International Conference on Advances in* (pp. 316-319). IEEE.

Wang, Y., Chu, X., Bao, C., Zhu, L., Deussen, O., Chen, B., & Sedlmair, M. (2018). EdWordle: Consistency-preserving Word Cloud Editing. *IEEE transactions on visualization and computer graphics*, 24(1), 647-656.

Greene, G. J., & Fischer, B. (2015, September). Interactive tag cloud visualization of software version control repositories. In *Software Visualization (VISSOFT), 2015 IEEE 3rd Working Conference on* (pp. 56-65). IEEE.

Segel, E., & Heer, J. (2010). Narrative visualization: Telling stories with data. *IEEE transactions on visualization and computer graphics*, 16(6), 1139-1148.

Viegas, F. B., Wattenberg, M., & Feinberg, J. (2009). Participatory visualization with wordle. *IEEE transactions on visualization and computer graphics*, 15(6).